

**Amendments to the Drawings:**

1. On sheet 1/46 in Figure 1A, reference number 68 has been added. Support may be found in paragraph [0057].
2. On sheet 7/46 in Figure 3A, reference numbers 311 and 322 have been added. Support may be found in paragraphs [0062] and [0063].
3. On sheet 12/46 in Figure 6C, reference number 46 has been deleted.
4. On sheet 18/46 in Figures 12A, 13A and 14A, reference number 800 has been added. Support may be found in paragraphs [0086] through [0091].
5. On sheet 19/46 in Figures 15A and 16A, reference number 800 has been added. Support may be found in paragraphs [0086] through [0091].
6. On sheet 20/46 in Figures 12B, 13B and 14B, reference number 800 has been added. Support may be found in paragraphs [0086] through [0091].
7. On sheet 21/46 in Figures 15B, 16B, reference number 800 has been added. Support may be found in paragraphs [0086] through [0091].
8. On sheet 22/46 in Figures 12B, 13B and 14B, reference number 800 has been added. Support may be found in paragraphs [0086] through [0091].
9. On sheet 23/46 in Figures 15C, 16C, reference number 800 has been added. Support may be found in paragraphs [0086] through [0091].
10. On sheet 24/46 in Figures 12D, 13D and 14D, reference number 800 has been added. Support may be found in paragraphs [0086] through [0091].

11. On sheet 25/46 in Figures 15D, 16D, reference number 800 has been added. Support may be found in paragraphs [0086] through [0091].
12. On sheet 26/46 in Figures 12E, 13E and 14E, reference numbers 800 and 835 have been added. Support may be found in paragraphs [0086] through [0091].
13. On sheet 27/46 in Figures 15E, 16E, reference number 800 has been added. Support may be found in paragraphs [0086] through [0091].

Appendix: Replacement Sheets  
Annotated Sheets Showing Changes

### REMARKS / ARGUMENTS

For the convenience of the Examiner and clarity of purpose, Applicant has reprinted the substance of the Office Action in *10-point bolded and italicized font*. Applicant's arguments immediately follow in regular font. In general, Applicant does not accede to the Examiner's characterization of the cited prior art or the structure of Applicant's claims unless such agreement is expressly stated below.

*1. The Information Disclosure Statement filed 28 April 2003 has been considered in part with only US Patent No(s). 6,220,357; 5,456,322; 6,227,298 being considered. The remaining references and pages of the IDS were not considered to be proper as they are merely photocopies of the Information Disclosure Statements filed by applicant in the parent cases, US Application No(s). 09/378,384 and 10/004,956, as well as the Notices of References Cited sent to applicant for the above applications. While the references cited in a parent application should be cited in the child application, new Information Disclosure Statements must be filed. The examiner notes that she has cited all of the references listed on the IDS filed 28 April 2003 thus no action by applicant is required.*

On March 31, 2005, Applicant mailed an IDS consisting of four (4) Forms PTO-SB-08A that listed some 76 U.S. patents or published applications and one (1) non-U.S. patent or published application, and a Form PTO-SB-08B listing ten (10) non-patent references. A single page chart showing the relationship of this application to other related and co-pending applications was also presented. In accordance with PTO practice, only physical copies of the foreign and non-patent references were provided.

It appears from the PTO records (Pair and deposit account) that this IDS has not been associated with the file (or even processed by the PTO). Thus, Applicant resubmits the IDS that

was originally mailed on March 31, 2005.

Please note that this paper also contains an Information Disclosure Statement. Only one IDS fee is thought due for the resubmission of the earlier IDS and the IDS submitted herewith.

***2. The drawings are objected to because reference character "46" in Figure 6(c) should be deleted and because Figures 12A-16A, 12B, 14B-16B, 15C, 16C, 12D, 14D-16D, and 13E do not contain reference numbers which the examiner considers essential to the understanding of the claimed invention. Applicant is reminded that any reference numbers added to the above figures should be within or added to the specification.***

Reference 46 has been deleted from Figure 6C. Figures 12A through 12E, 13A through 13E, 14A through 14E, 15A through 15E and 16A through 16E have been amended by adding one or more reference numerals to place the figure in the context of the existing specification. No new matter has been added.

***3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) mentioned in the description: 68, 311, 322, and 710.***

Reference number 68 has been added to Figure 1A, and reference numbers 311 and 322 have been added to Figure 3A. No new matter has been added. Applicant was unable to find reference number 710 in the subject specification.

***4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 169.***

Reference number 169 is described in paragraph [0066] as the "downhole end 169." No amendment to the specification has been made in response to this objection.

***6. The abstract of the disclosure is objected to because the abstract includes the implied phrases "The invention includes in one embodiment" and***

*"The present invention also includes in one embodiment". Correction is required. See MPEP § 608.01(b).*

*7. Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.*

*The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.*

The Abstract has been amended to comply with the Examiner's comments. No new matter has been added.

*8. The disclosure is objected to because of the following informalities: paragraph [0002] should be updated to include the status of all parent applications.*

Applicant has updated the information in paragraph [0002].

*9. Claims 2 and 4 are objected to because of the following informalities: "an object" should be changed to --the object--. Appropriate correction is required.*

Claims 2 and 4 have been amended by replacing "an object" with -- the object --.

*11. Claims 1, 2, 4-6, 10-16, 19-22, 24-39, and 42-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Bixenman et al. (US 6,575,246).*

*Regarding claims 1, 15, 31, 32, 35, 39, 42, 43, 45, Bixenman et al. discloses a valve system in a well that comprises an isolation string that includes the following features:*

*> An upper packer 7.*

*> An isolation pipe 143 with pressure activated, double-sub valve 56 and an object activated valve 154.*

*> An object holding service tool 14 coupled to the objected activated valve and adapted to release an object 103 to engage the object activated valve.*

Applicant respectfully traverses the rejection of independent claims 1, 15, 31, 35, 42 and 45. The law of anticipation requires that the prior art reference disclose each claim limitation *arranged in the order claimed*. See, e.g., *Brown v. 3M*, 265 F.3d 1349, 60 USPQ2d 1375 (Fed. Cir. 2001)(“to anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim”); *C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 47 USPQ2d 1225 (Fed. Cir. 1998)(“a finding of anticipation requires that the publication describe all of the elements of the claims, arranged as in the patented device.”); *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990)(“These elements must be arranged as in the claim under review.”). It is also incorrect to base anticipation on “substantial similarity” between the disclosure and the arrangement of claimed elements. See *Jamesbury Corp. v. Litton Indus. Prods., Inc.*, 756 F.2d 1556, 225 USPQ 253 (Fed. Cir. 1985).

In general, Applicant disagrees with the Examiner’s characterization of what Bixenman discloses. With respect to the current rejections, Bixenman’s flow control element 56, which the Examiner equates with Applicant’s pressure activated valve, is *not* part of Bixenman’s “isolation string,” but rather is part of the removable service tool 14. In Bixenman, the service tool 14 is used to, for example, set the packer and gravel pack the well around the isolation string. See Column 7, line 59 – Column 8, line 59. The service tool 14 is ultimately removed from the well

prior to production of hydrocarbons from the isolated formation. See Column 3, lines 10-11. Further, what the Examiner characterizes as “isolation pipe 143” is described by Bixenman as the “housing 143” of the removable service tool 14 and is not part of the isolation string. Still further, what is characterized as the object activated valve 154 is actually the crossover mechanism in the service tool, which is used to hydraulically set the packer and then open the service tool cross-over ports 158. Thus, Bixenman’s ball valve 56 and crossover mechanism 154 are part of the removable service tool and not part of the “isolation string.” Applicant has other issues with the Examiner’s characterizations of Bixenman and with what Bixenman actually discloses, but those distinctions listed above should suffice for purposes of this response.

The subject application teaches that the isolation string 1100 may be run-in the well on a service tool and set with the production screen 1108 adjacent perforations. See, e.g., paragraph [0098]. Thus, the subject application specifically distinguishes the “isolation string” structure from the “service tool” structure. The subject application goes on to describe that “the service tool is then released from the isolation string 1100 and withdrawn from the well” prior to production.

Each of independent claims 1, 15 and 45 require that the “pressure activated valve” and the “object activated valve” be associated with the isolation string. These structures are not associated with the service tool in these claims. Under the Examiner’s characterization of Bixenman, Bixenman does not disclose an “object activated valve” associated with an isolation string. Thus, Bixenman cannot render unpatentable independent claims 1, 15 and 45. These claims have not been amended in response to these rejections. Reconsideration of these

rejections is requested.

Independent claim 31 has been amended to make plain that the object activated valve is not associated with the service tool. Reconsideration of this rejection is requested.

Independent claim 35 has been canceled, not in response to this rejection, but rather because of the cumbersome presentation of the subject matter of that claim.

Independent claim 42 requires an “object holding service tool” and a “means for releasing” the object. Under the Examiner’s characterization, Bixenman does not disclose that the “service tool” holds the ball 103 and then releases it. Rather, Bixenman discloses that the ball 103 is manually dropped from the surface and thereafter resides in the service tool. See, e.g., Column 54 – 57 (“a ball . . . dropped from the surface through the tubing string.”). Reconsideration of this rejection is requested.

Rejected claims 32, 39 and 43 depend from the independent claims addressed above and are patentable over Bixenman for at least the reasons discussed above. Reconsideration is requested.

***Regarding claims 2, 15, 16, 33, 36-38. The object holding service tool includes a holding barrel 108 having a bore in which the object is slidably and sealingly engaged. The tool is adapted to slidably release the object with sufficient pressure applied to the object to cause a restraining device holding the object to release the object (5:54-62)***

Independent claim 15 is patentably distinct over Bixenman for at least the reasons presented above. Claim 15 has not been amended in response to this rejection.

Independent claim 36 has been amended to make plain that the “object” is released from the “service tool.” As pointed out above, even under the Examiner’s characterization of



Bixenman, the service tool does not release the object 103. Reconsideration of these rejections is requested.

Dependent claims 2, 16, 33, 37 and 38 are patentably distinct over Bixenman for at least the reasons discussed with respect to the independent claims from which they depend. Reconsideration is requested.

*Regarding claims 4, 19, 31, 46: The object activated valve includes the following features:*

- > A tube 143 having at least one opening 158.*
- > A sleeve (Figure 3C) having at least one other opening and being movably connected to said tube, wherein the at least one opening and the at least one other opening are adjacent in an open configuration and nonadjacent in a closed configuration (Figure 7C).*
- > An object seat 156 in mechanical communication with said sleeve, wherein said seat receives an object 103 for manipulating the valve between the open and closed configurations.*

As discussed above, amended independent claim 31 makes plain that the “object activated valve” is not associated with the “service tool.” Thus, for at least this reason, Bixenman cannot anticipate claim 31. Reconsideration of this rejection is requested.

Dependent claims 4, 19 and 46 are patentably distinct over Bixenman for at least the reasons discussed with respect to the independent claims from which they depend. Reconsideration is requested.

*Regarding claims 5, 34, 44, 47. The object activated valve includes a piston 148 coupled to the sleeve.*

*Regarding claims 7, 21. The string and valves of Bixenman et al. are disclosed*

*as being part of a gravel packing assembly and method thus would inherently include a production screen where the fluid that passed through the screen would either pass through the above valves prior to passing through the screen or after passing through the screen.*

Dependent claims 5, 7, 21, 34, 44 and 47 are patentably distinct over Bixenman for at least the reasons discussed with respect to the independent claims from which they depend. Reconsideration is requested.

*Regarding claims 10, 11, 24, 25: Bixenman et al. discloses a method for isolating a production zone that using the above apparatus. The method involves the following steps:*

- > Running in the well on the service tool 14, the isolation string including both valves.*
- > Setting the string adjacent perforations in the casing.*
- > Pressurizing the area of the object to releasing the object from the tool.*
- > Contacting the object activated valve with the object to close the valve.*
- > Withdrawing the tool from the zone.*

As presented prior to this paper, independent claims 10 and 24 required the “object activated valve” to be a part of the “isolation string.” As discussed above, under the Examiner’s characterization of Bixenman, the “object activated valve” is resident on Bixenman’s service tool and not on the isolation string. Thus, Bixenman cannot anticipate independent claims 10 or 24 or the claims that dependent therefrom. Reconsideration is requested.

Separate from this rejection, Applicant has amended claims 10 and 24 by adding redundant statements that make plain that the “object activated valve” is a part of the isolation string. Applicant contends that these additions are not narrowing amendments and are not

needed to overcome this rejection, but are added to help to clarify the subject matters of the claims. Dependent claims 11 and 25 are patentably distinct over Bixenman for at least the reasons discussed above with respect to the independent claims from which they depend.

*Regarding claims 12, 26, 27: The method further involves setting the packer and stinging the isolation string into another isolation string.*

*Regarding claims 13, 29: The method further involves stinging a production string into the isolation string and opening the pressure activated valve.*

*Regarding claims 14, 30: The method further involves assisting inclosing the object activated valve by pressurizing an area of the piston.*

*Regarding claims 20, 21: The isolation pipe and production pipe are connectable to another isolation string (5:39-44).*

*Regarding claim 28: The method further involves reconfiguring the object activated valve from an open to a closed configuration with the object*

Dependent claims 12, 13, 14, 20, 21, 26, 27, 28, 29 and 30 are patentably distinct over Bixenman for at least the reasons discussed above with respect to the independent claims from which they depend. Reconsideration is requested.

*13. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bixenman et al. in view of Wolff et al. (US 3,741,300).*

*Bixenman et al. discloses all of the limitations of the above claims except for the screen being wrapped around the outside of the pressure and object-activated valves.*

*Wolff et al. discloses a wellbore valve 32. Wolff et al. further teaches a wrapped screen 34 surrounding the valve (Figure 2).*

*It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Bixenman et al. such that the screen was wrapped around the outside of the pressure and object-activated valves as taught by Wolff et al. in order to have filtered fluid entering the system and passing through the valves. Without filtering the formation fluid,*

*sand and other debris would have tended to erode the valves leading to premature failure. Further, placing the screen directly around the valves would have reduced the length of the overall tool thus reducing the time to run the tool into the wellbore.*

As pointed out above, Bixenman does not disclose or teach every limitation of independent claim 1. Consequently, Bixenman does not disclose or teach the limitations of dependent claims 7 and 8.

The Examiner relies upon the disclosure in Wolff to show a screen-wrapped completion tool with a sleeve valve. Assuming *arguendo* that it is permissible to combine this disclosure of Wolff with the Examiner's characterization of Bixenman, such combination cannot form a prima facie case of obviousness of claims 7 and 8. More particularly, the combination would result in a *screen wrapped service tool* for use within an isolation string. Applicant submits that such combination cannot render obvious claims 7 or 8. Reconsideration of these rejections is requested.

**14. Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bixenman et al. in view of Patel (US 6,302,216).**

*Bixenman et al. discloses all of the limitations of the above claims except for a lower packer in mechanical communication with the isolation pipe.*

*Patel discloses a system similar to that of Bixenman et al. Patel further teaches an isolation pipe 54 that is in mechanical communication with an upper 18 and a lower 36 packer.*

*It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the isolation string of Bixenman et al. to include a lower packer in mechanical communication with the isolation pipe as taught by Patel in order to have provided a means for isolating a single zone and/or preventing commingling of fluids from different zones.*

As pointed out above, Bixenman does not disclose or teach every limitation of independent claim 1 or 15. Consequently, Bixenman does not disclose or teach the limitations of dependent claims 9 or 23.

The Examiner relies upon the disclosure of Patel to show a lower packer in mechanical communication with an isolation pipe. While Patel may disclose an isolation system, it does not disclose or teach an isolation string with an "object activated valve" as required by claim 18. Patel's ball valve assembly 24 is not an "object activated valve," because Patel discloses that one or more control lines that run to the surface activate the ball valve 24. See, e.g., Column 9, lines 41-63. Applicant can find no disclosure or teaching in Patel that the ball valve 24 is rotated from an opened condition to a closed condition (or vice versa) in response to activation by an object. Nonetheless, assuming *arguendo* that it is permissible to combine this disclosure of Patel with the Examiner's characterization of Bixenman, such combination does not create a prima facie case of obviousness of claims 9 and 23.

Reconsideration of these rejections is requested in light of these arguments.

**15.     *Claims 40 and 41 are allowed.***

Applicant thanks the Examiner for the favorable consideration given to claims 40 and 41.

**16.     *Claims 3, 17, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.***

In light of the arguments and amendments presented above with respect to independent claims 1 and 15, Applicant chooses not to rewrite dependent claims 3, 17 and 18 at this time.

### **OTHER AMENDMENTS TO CLAIMS**

Applicant has amended independent claims 1, 10, 15 and 24 to more clearly point out and distinctly claim various aspects of the inventions disclosed in the subject application. These amendments are not made in response to any rejection and are not believed necessary for patentability. The amendments to claims 1 and 15 may be broadening amendments.

### **INFORMATION DISCLOSURE STATEMENT**

Submitted herewith are two (2) Forms PTO-SB-08A listing twenty-one (21) U.S. patents or published applications and one (1) non-patent reference for consideration by the Examiner. In accordance with PTO practice, copies of all U.S. Patents and Published Applications do *not* accompanying this IDS. Full consideration of these references is respectfully requested.

Applicant directs the Examiner's attention to the chart that is provided in March 31, 2005 IDS, which shows the interrelationship of this application with other issued and co-pending applications, in compliance with MPEP 2001.06(b). Several of those applications have received recent Office Actions.

### **CONCLUSION**

A three (3) month extension fee in the amount of \$1,020 and an IDS submission fee of

Appl. No. 10/712,153  
Amdt. dated 03/28/2006  
Reply to Office action of 09/28/2005

P804-1242D-US

\$180 are thought to be due for this paper and its related submissions. The Commissioner is hereby authorized to charge these fees and any other fee necessary to make this and related papers timely and effective to deposit account 12-1322 (020569-05006).

Applicant thanks the Examiner for her consideration and efforts on this application and submits that this case is now in condition for allowance. Applicant respectfully requests that a timely Notice of Allowance be issued. The Examiner is invited to call the undersigned with any questions concerning this application or this paper.

Respectfully submitted,

  
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adeaver@lockeliddell.com

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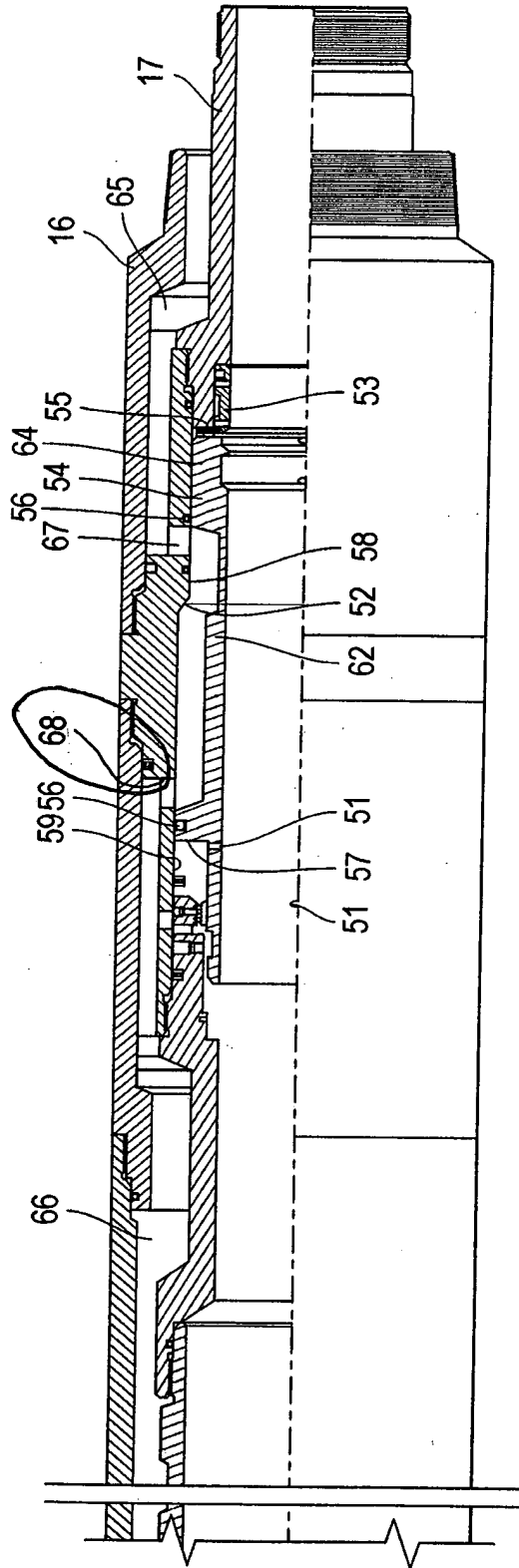


FIG. 1A



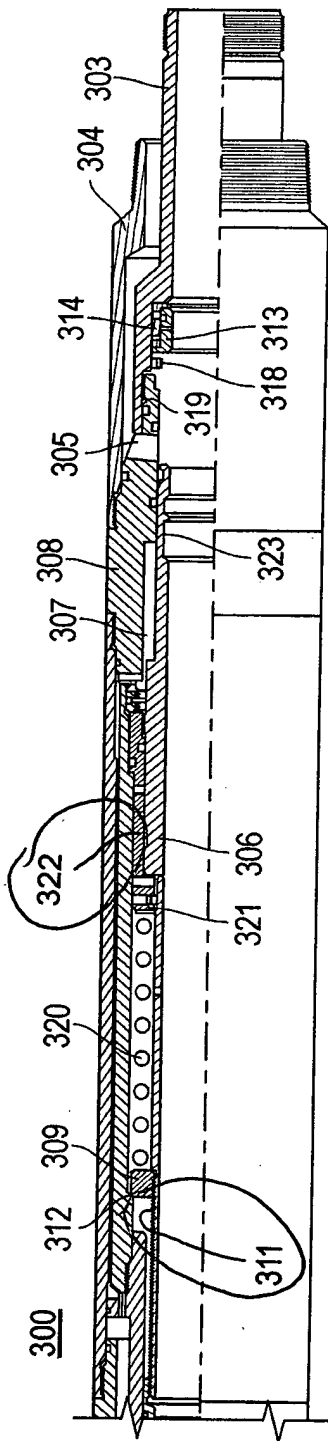


FIG. 3A

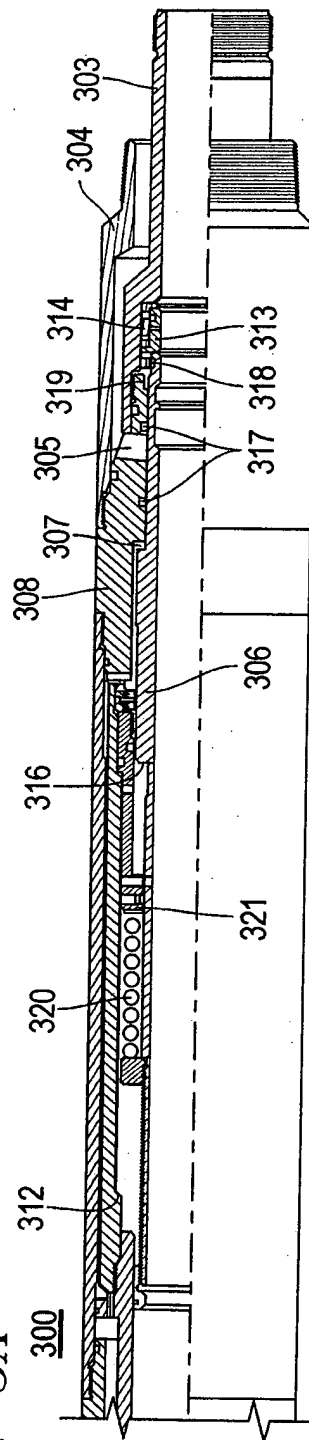


FIG. 4A

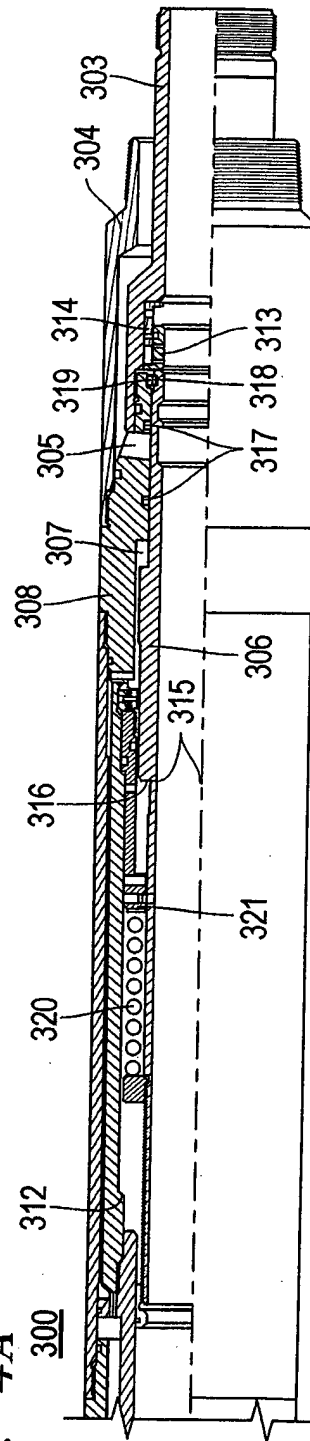
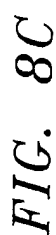
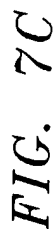
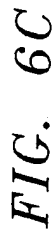
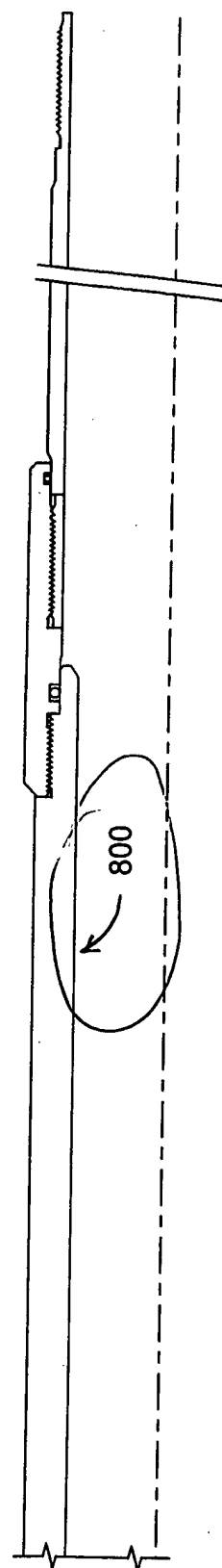
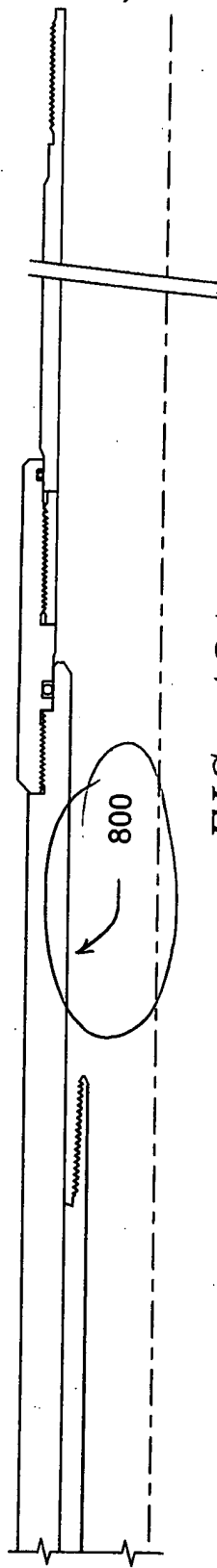
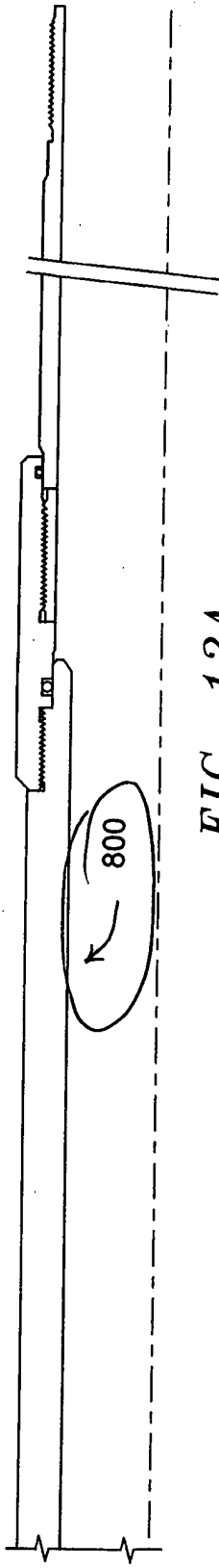


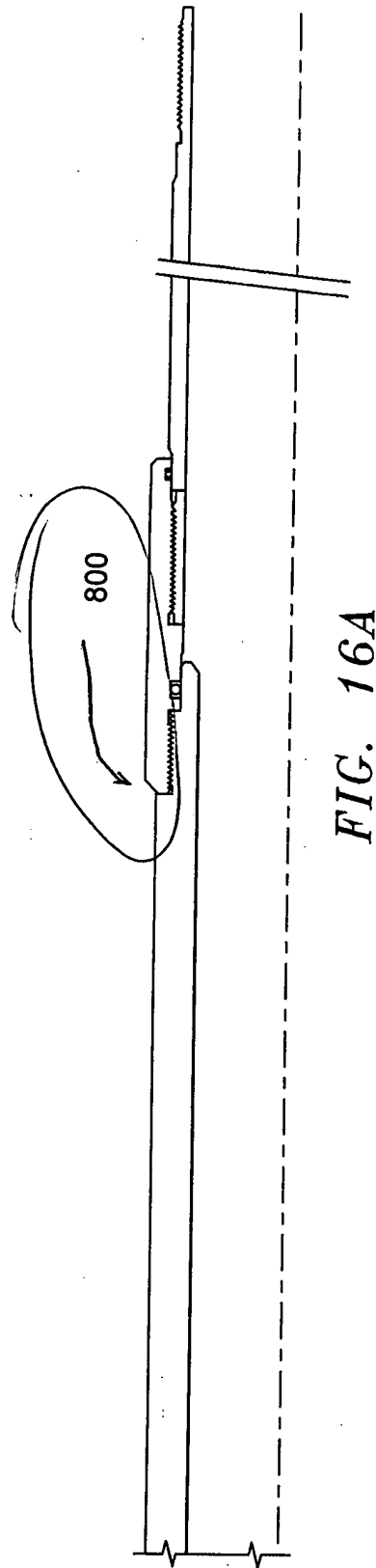
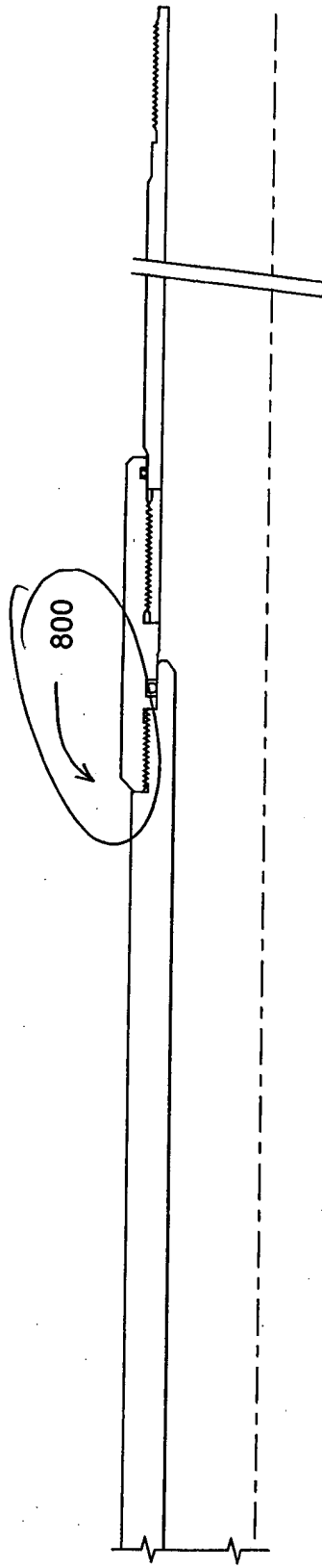
FIG. 5A



18/46



19/46



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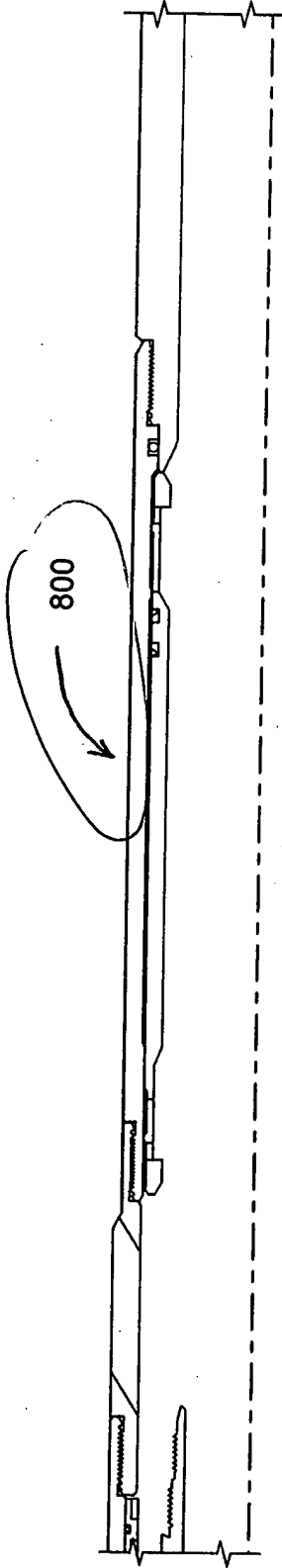


FIG. 12B

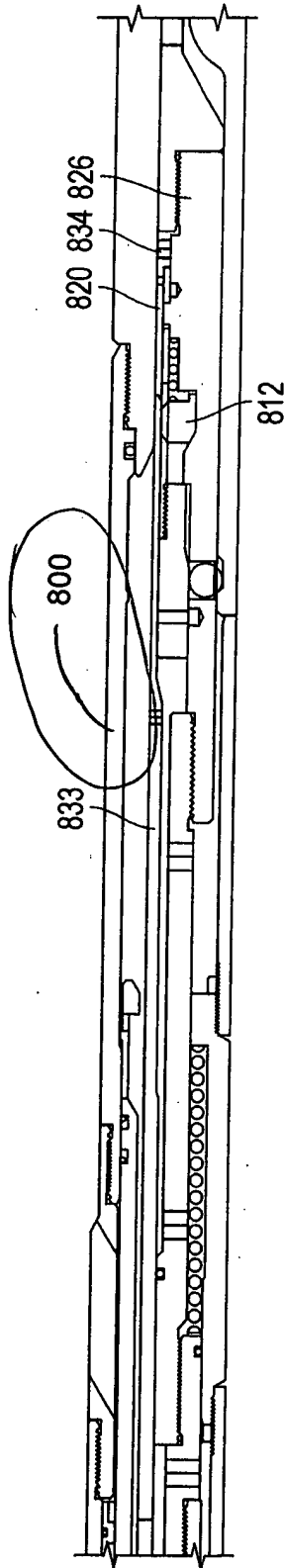


FIG. 13B

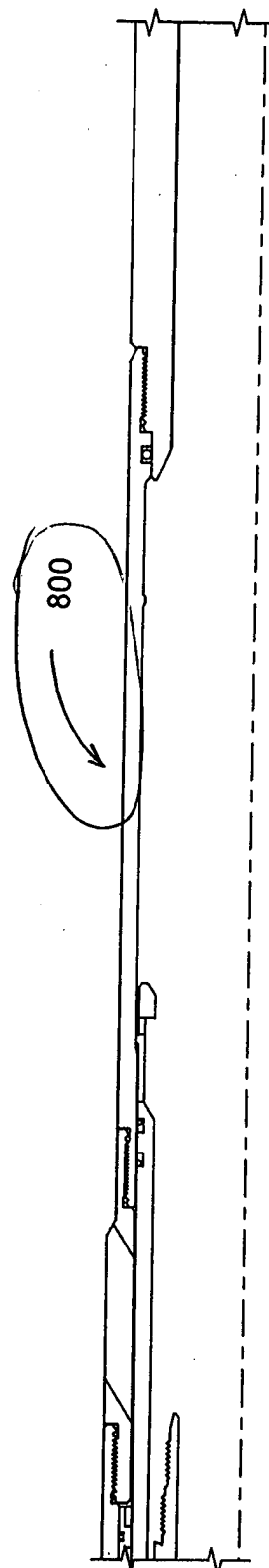
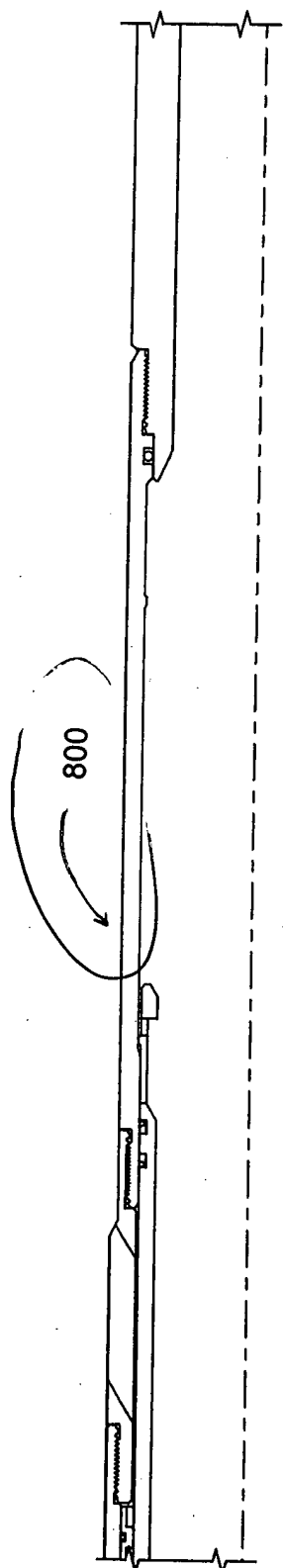
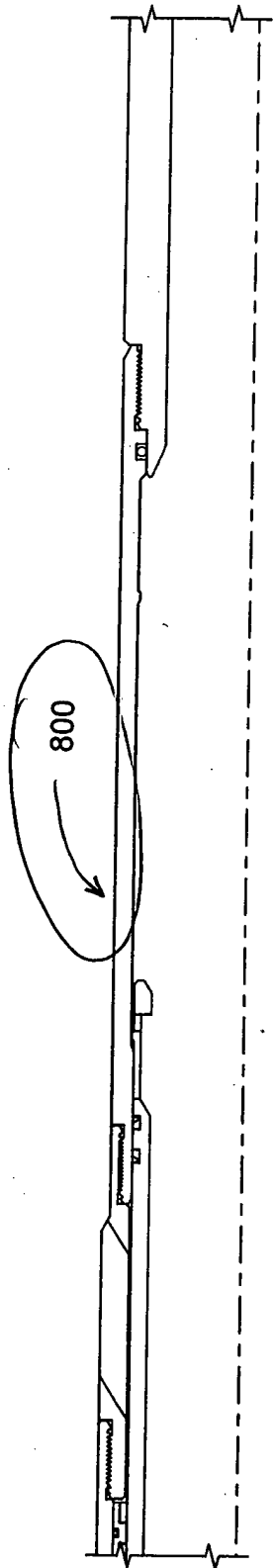


FIG. 14B

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22/46

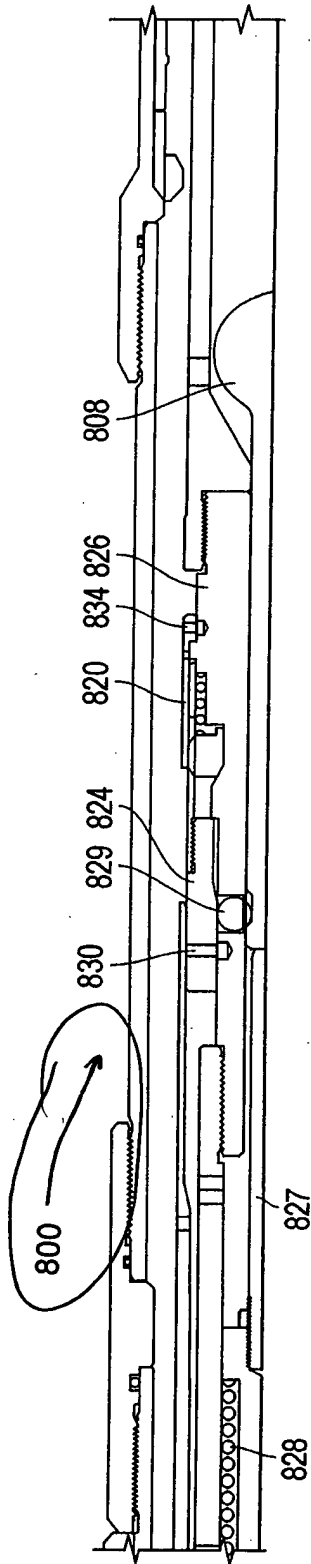


FIG. 12C

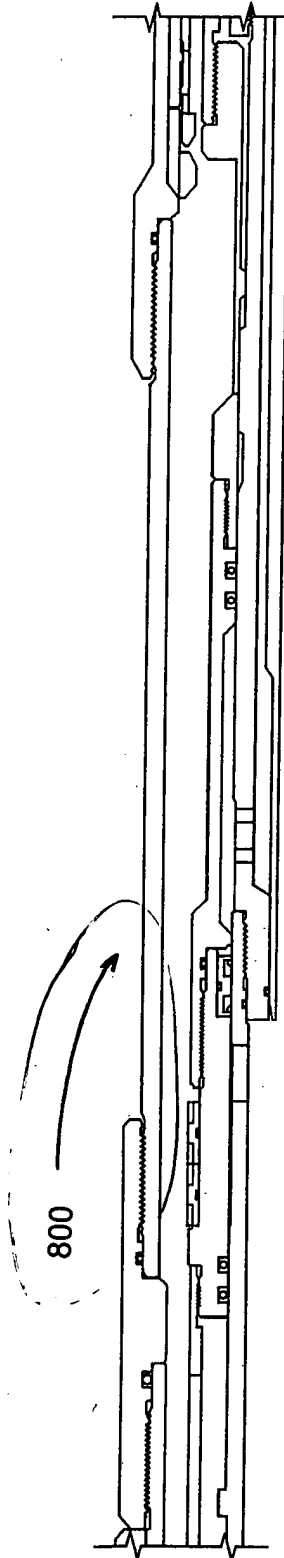


FIG. 13C

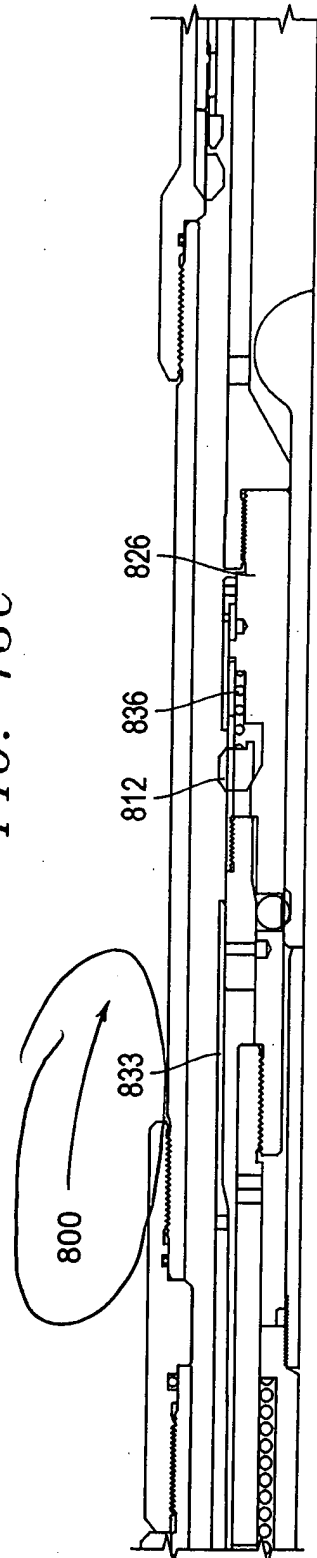


FIG. 14C

23/46

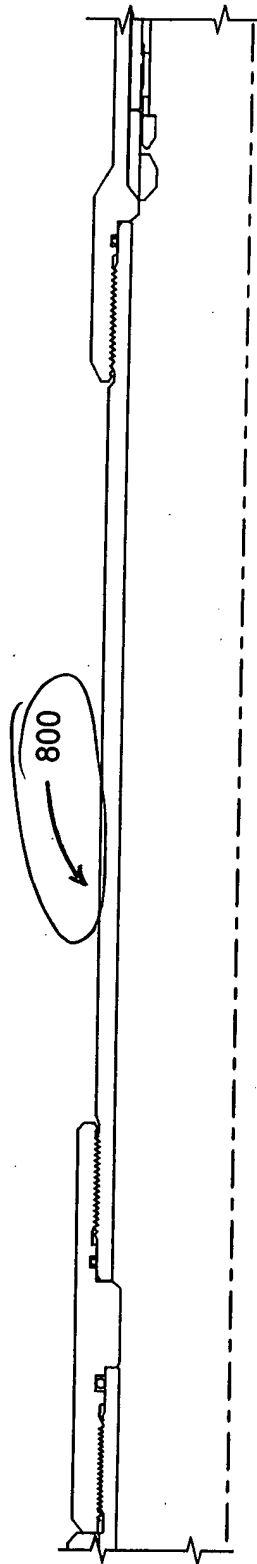


FIG. 15C

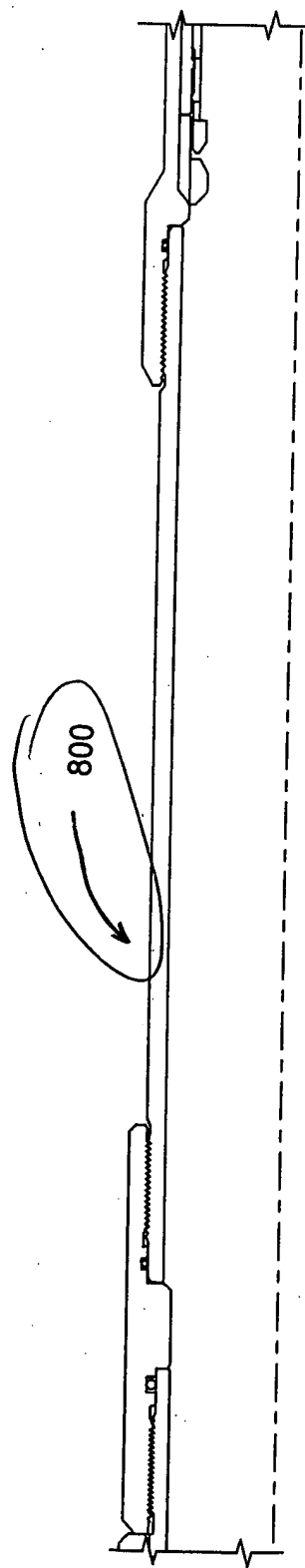


FIG. 16C



24/46

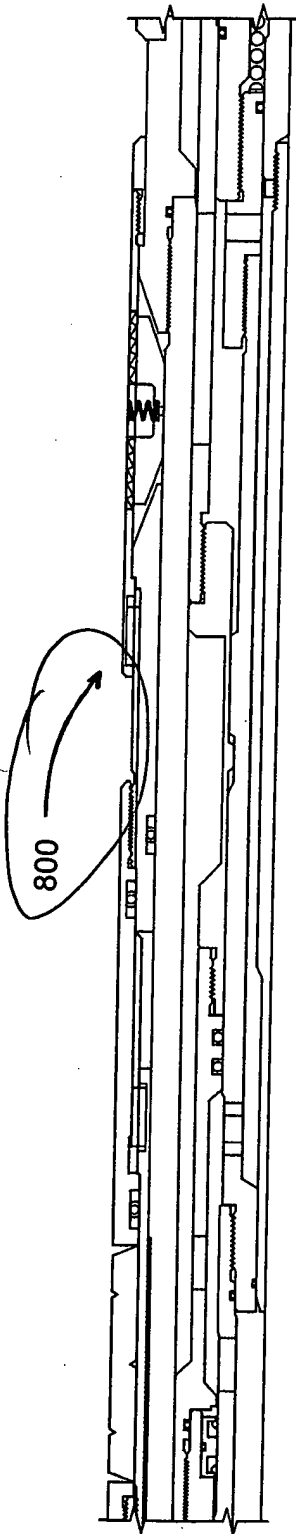


FIG. 12D

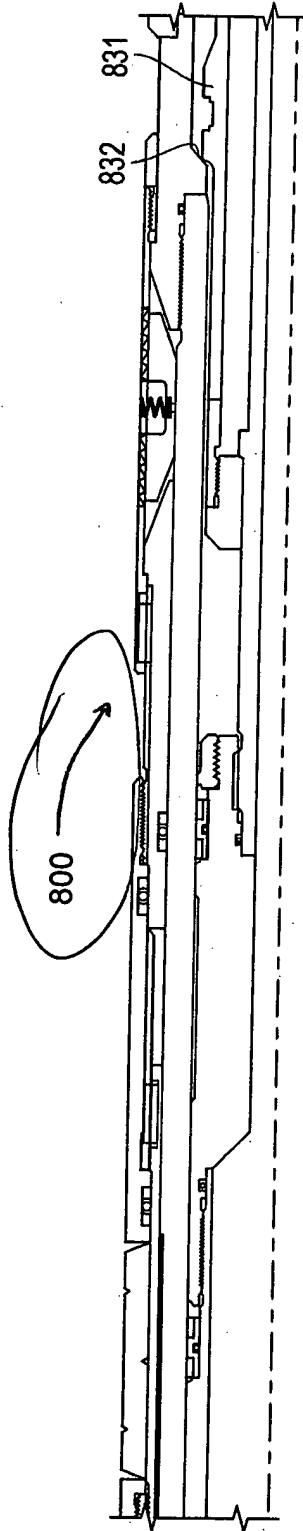


FIG. 13D

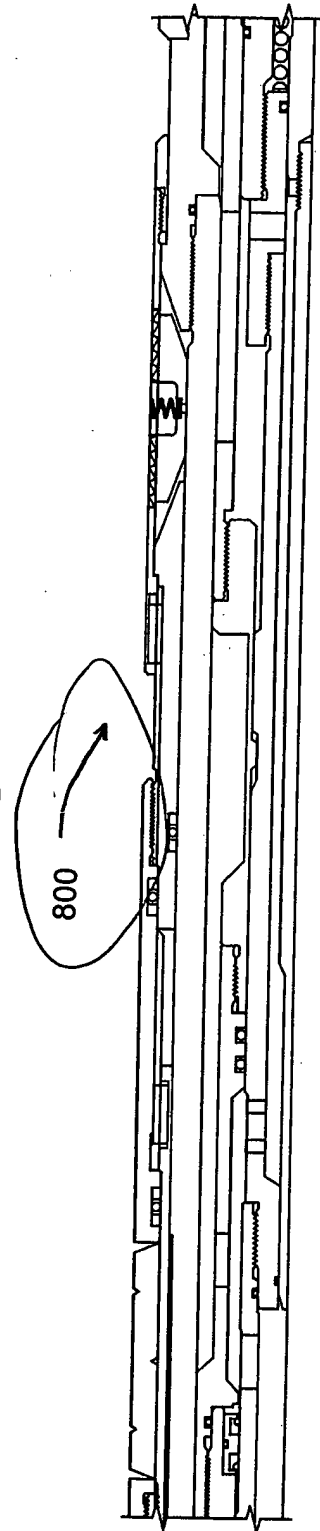


FIG. 14D

25/46

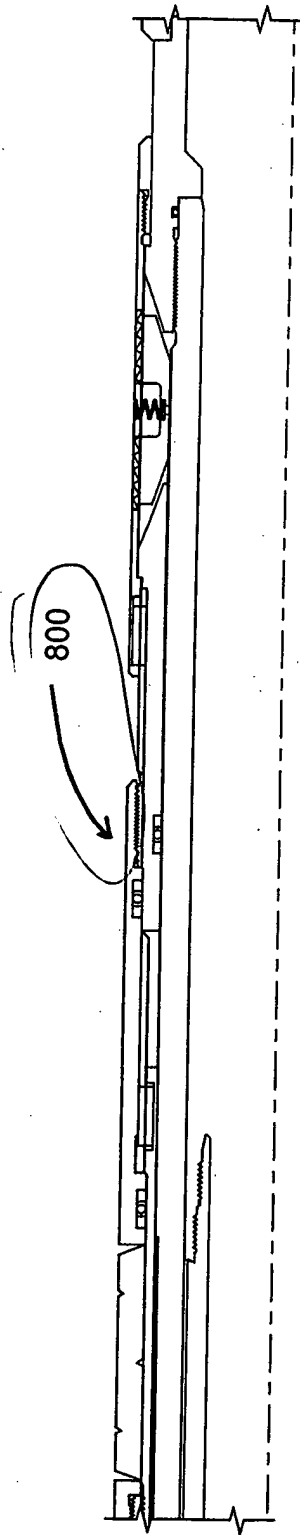


FIG. 15D

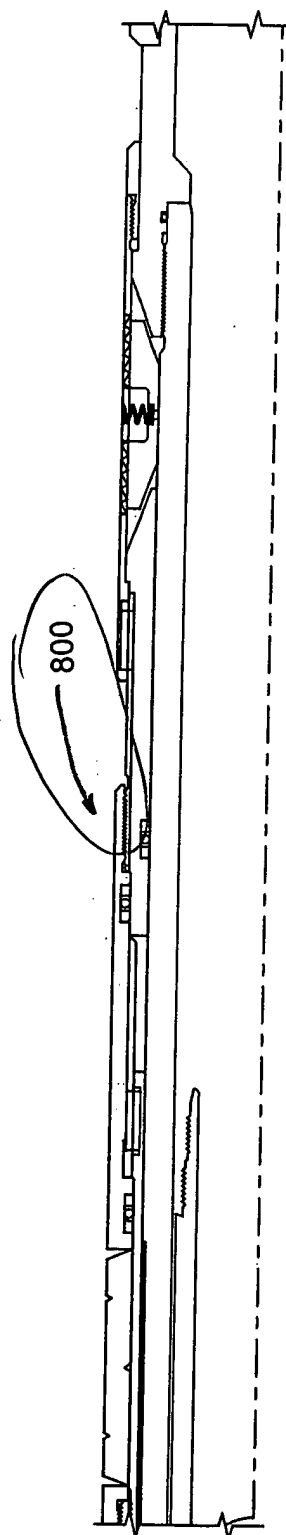


FIG. 16D

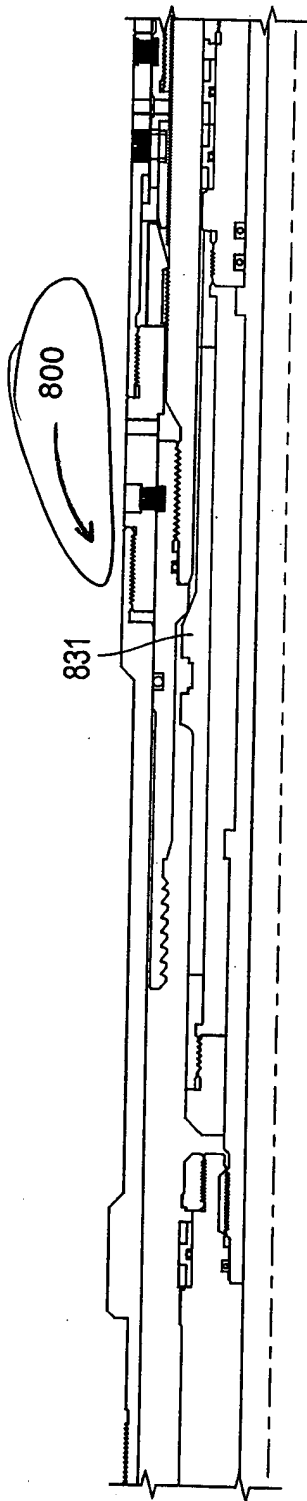


FIG. 12E

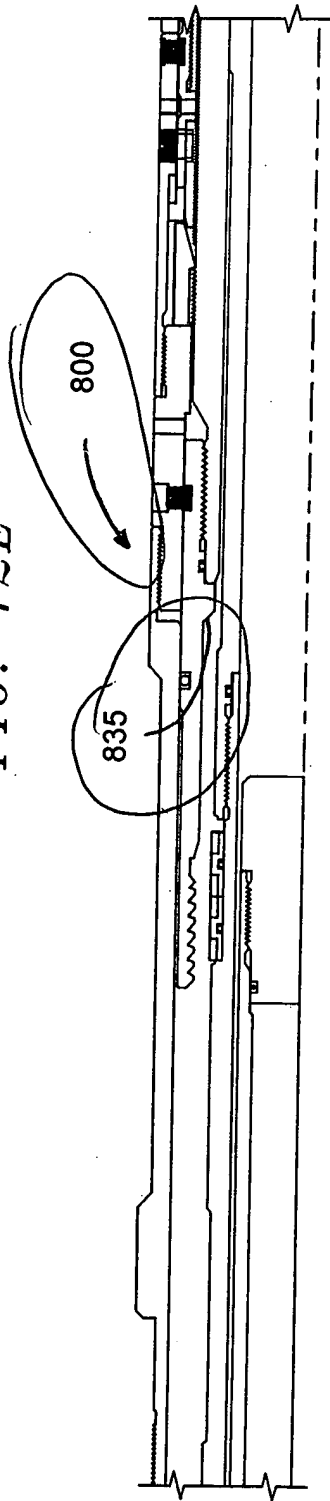


FIG. 13E

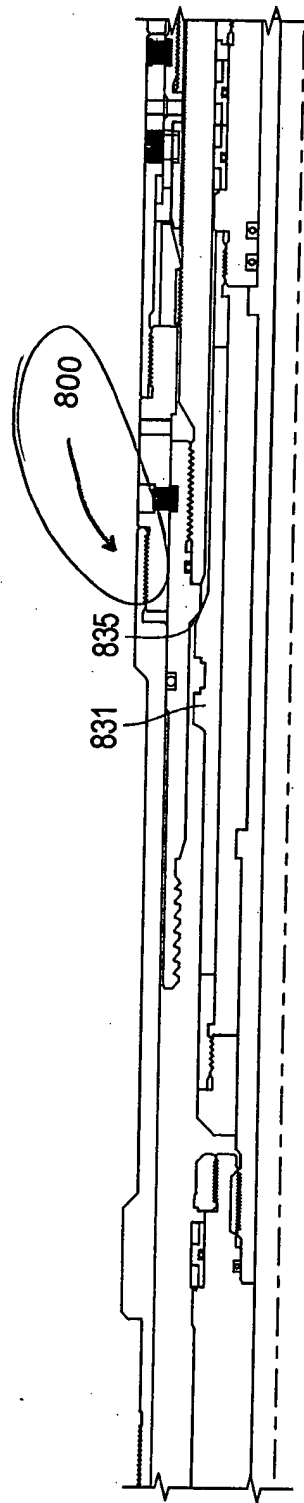


FIG. 14E

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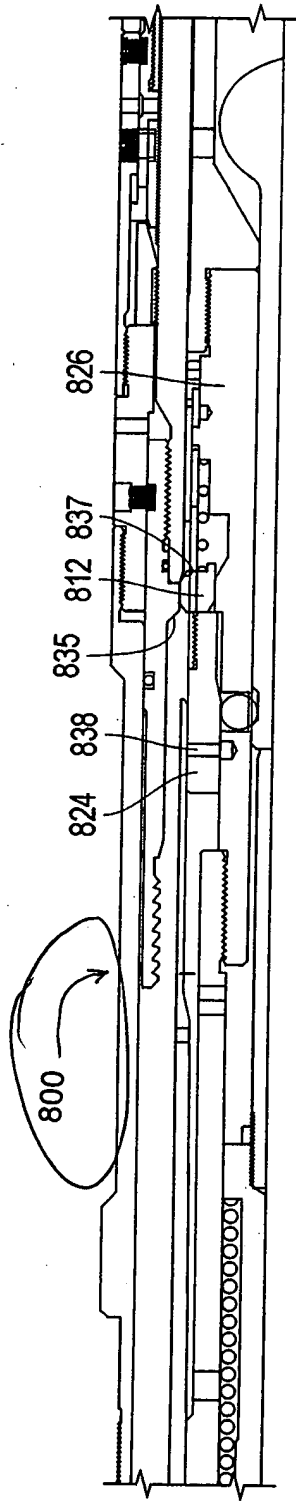


FIG. 15E

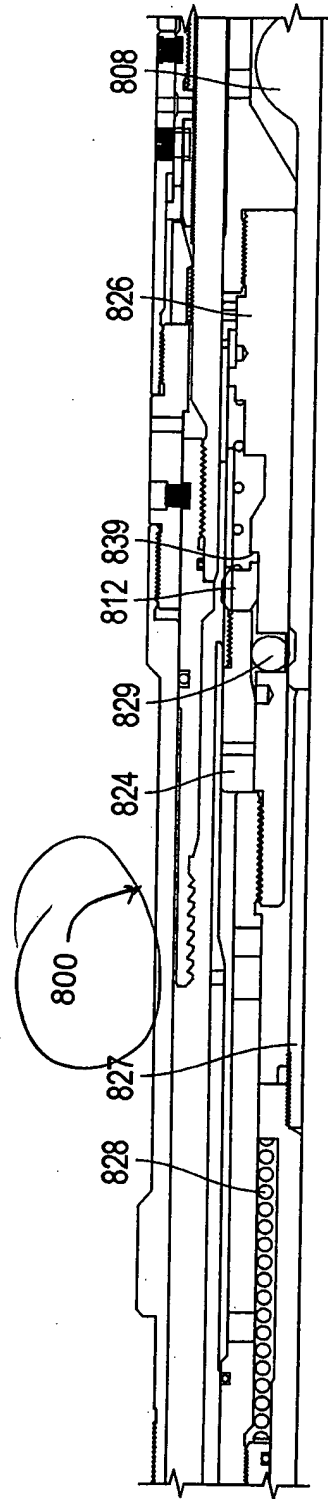


FIG. 16E